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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,004	08/20/2003	Rob Jason Evans	EVAN-10044	6125
23123	7590	10/19/2004	EXAMINER	
SCHMEISER OLSEN & WATTS 18 E UNIVERSITY DRIVE SUITE # 101 MESA, AZ 85201			HUNNINGS, TRAVIS R	
			ART UNIT	PAPER NUMBER
			2632	

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/645,004		EVANS, ROB JASON	
	<b>Examiner</b>		<b>Art Unit</b>	
	Travis R Hunnings		2632	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 August 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. The term "approximately" in claims 2 and 5 is a relative term which renders the claim indefinite. The term "approximately" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The usage of the term "approximately" in the phrase "less than or equal to approximately six months" renders the claims indefinite because it would be unclear to one of ordinary skill in the art exactly how much time is being measured.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 2632

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elliot et al. (Elliot; US Patent 6,155,324) in view of Sisselman et al. (Sisselman; US Patent 5,568,129).

Regarding claim 1, Elliot discloses Apparatus and Method for Operating a Door that discloses a fire door system under control of an electromechanical clutch (abstract). Elliot discloses the fire door system being frequently tested to ensure that the system properly functions (col2 6-8). Sisselman discloses Alarm Device Including a Self-Test Reminder Circuit that teaches a smoke alarm device that has circuitry that turns on a reminder indicator to remind the user to test the device periodically (col2 36-42 and abstract). The periodic testing would occur at predetermined time periods based on the setup of the reminder circuitry. Implementing a similar system of testing reminders in the fire door system disclosed by Elliot would help to ensure that the users of the fire door system periodically test the fire door system since it provides such an important function (Elliot, col2 6-8). Therefore it would have been obvious to one of ordinary skill in the art to modify the device disclosed by Elliot according to the teachings of Sisselman to include testing reminder circuitry that provides notification to a user after a predetermined period of time that the system needs to be tested.

Regarding claim 2, Elliot discloses all of the claimed limitations except wherein the first predetermined period of time to remind the user to test the circuit would be less than or equal to six months. Sisselman teaches testing the smoke alarm circuitry monthly to conform to National Fire Protection Association recommendations (col1 24-27). It would be beneficial to test the device disclosed by Elliot every month as well in order to conform to the same recommendations. Therefore it would have been obvious to one of ordinary skill in the art to modify the device disclosed by Elliot according to the teachings of Sisselman to test the fire door system monthly.

Regarding claim 6, Elliot discloses all of the claimed limitations. The claimed method further comprising controlling the fire door by the electronic controller is met by the electromechanical circuit board sending an electrical signal to an electromechanical clutch that opens the clutch and allows the fire door system to close (abstract). The claimed method further comprising controlling the fire door by a clutch during alarm conditions is met by the electromechanical clutch operable allowing the fire door system to close when a switch, signal, or fusible link indicates that the fire door should close (indicating an alarm condition; abstract).

Regarding claim 11, Elliot discloses all of the claimed limitations. The claimed method further comprising the step of resetting the electronic controller by opening the fire door to a fully open position wherein the step of resetting the electronic controller comprises removing an alarm condition for subsequent regular non-alarm operation of

the fire door system is met by the fire door system being automatically reset by raising the fire door curtain thereby being ready to close again in the event of a fire. The claimed removing of an alarm condition is met by the raising of the fire door curtain. The fire door curtain is lowered during an alarm condition and therefore raising the fire door curtain is indicative of the removal of an alarm condition.

6. Claims 7, 8, 10, 13, 14, 15, 16, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elliot in view of Sisselman and further in view of Crimmins (US Patent 6,014,307).

Regarding claim 7, Elliot and Sisselman disclose all of the claimed limitations except the claimed method further comprising controlling the fire door by a motor during alarm conditions when a primary power source is on. Crimmins discloses Fire Door Operator Having an Integrated Electronically Controlled Descent Device that teaches using an AC drive motor to actively open and close the fire door system (abstract, col2 50-55). Using an AC drive motor to control the device disclosed by Elliot and Sisselman would be beneficial because the AC drive motor would be able to open and close the door without manual effort. Therefore it would have been obvious to one of ordinary skill in the art to modify the device disclosed by Elliot and Sisselman according to the teachings of Crimmins to include an AC drive motor for controlling the fire door. It would be inherent that the AC drive motor would control the fire door during alarm conditions when the primary power source is on.

Elliot and Sisselman are further silent on the claimed step of controlling the fire door by the electronic controller further comprising controlling a fire door by the electronic controller in both of alarm conditions and non-alarm conditions when a primary power source is on. Crimmins teaches opening and closing the fire door system using an AC drive motor under the control of a control board (col2 50-55 and fig. 2A). The control board electronically controls the operation of the AC drive motor during alarm conditions (col9 37-63) and non-alarm conditions when the user presses one of a plurality of door-control buttons (col4 44-49). Allowing the electronic controller to control the fire door in both alarm and non-alarm conditions would increase the functionality of the device disclosed by Elliot and Sisselman. Therefore it would have been obvious to one of ordinary skill in the art to modify the device disclosed by Elliot and Sisselman to include an electronic controller that would control the operation of the fire door system during both alarm and non-alarm conditions.

Elliot and Sisselman are further silent on the claimed step of controlling the fire door by the clutch further comprising controlling the fire door by the clutch during alarm conditions when the primary power source is off. Crimmins teaches using a DC battery backup to control the fire door system in the event of a loss of primary AC power (col10 28-41). Adding a DC battery backup to the fire door system disclosed by Elliot and Sisselman would allow the fire door system to continue to operate using the clutch system as disclosed even if there was a loss of primary AC power. Therefore it would have been obvious to one of ordinary skill in the art to modify the device disclosed by Elliot and Sisselman according to the teachings of Crimmins to include a DC battery



backup system to allow the fire door system to operate when the primary power source is off.

Regarding claim 8, Elliot and Sisselman disclose all the claimed limitations except the claimed step of controlling the fire door further comprise actively opening, closing, or stopping the fire door by pressing a button operatively connected to the electronic controller. Crimmins teaches a push button station (5) that includes open, close and stop buttons for actively operating the fire door system (col4 44-49). Adding control buttons to open, close and stop the fire door to the fire door system disclosed by Elliot and Sisselman would increase the functionality of the system by allowing the user to control the fire door according to the user's desires. Therefore it would have been obvious to one of ordinary skill in the art to modify the device disclosed by Elliot and Sisselman according to the teachings of Crimmins to include buttons for opening, closing and stopping the fire door.

Regarding claim 10, Elliot and Sisselman discloses all the claimed limitations except the claimed step of receiving a signal in the electronic controller indicating one of the alarm conditions and initiating a warning alert to inform persons of the alarm condition and to warn them that the fire door will be closing. Crimmins teaches receiving an alarm condition and issuing an audible and visual warning to users that the fire door will be closing soon (col3 45-50). Adding this indication to the device disclosed by Elliot and Sisselman would benefit users because they would be warned of imminent



door closure and would then be able to exit the area before the door is closed.

Therefore it would have been obvious to one of ordinary skill in the art to modify the device disclosed by Elliot and Sisselman to include an alarm indication that is generated after receiving an alarm condition signal.

Regarding claim 13, Elliot and Sisselman disclose all the claimed limitations except the claimed method further comprising pulsating the clutch on and off to control a descent of the fire door in increments and permitting the door to descent in increments corresponding to the pulsating of the clutch. Crimmins teaches controlling the descent of the fire door by measuring the current descent speed and if that speed is greater than a predetermined safe value a brake is engaged to slow the fire door down to an acceptable speed once again (col3 7-22). Crimmins also teaches that the fire door descent is frequently controlled using a mechanical assembly such as a clutch or governor (col1 35-38). The pulsing of the brake as taught by Crimmins would be ideal to use with the clutch assembly in the device disclosed by Elliot and Sisselman to slow the speed of descent down. The door would fall until the predetermined speed was reached and then the clutch would be engaged to stop the door from moving, the clutch would then be disengaged to allow the door to move again until the maximum speed was once again reached thereby engaging the clutch yet again. This 'pulsing' of the clutch on and off allows the door to move down safely in increments and avoid damage to the door system due to unsafe descent speeds. Therefore it would have been obvious to one of ordinary skill in the art to modify the device disclosed by Elliot and

Sisselman according to the teachings of Crimmins to pulse the clutch on and off to control the descent of the door in increments.

Regarding claim 14, Elliot and Sisselman disclose all the claimed limitations except the claimed method further comprising receiving a signal in the electronic controller indicating a loss of function in at least part of the system. Crimmins teaches monitoring and testing the backup battery system in order to maintain proper maintenance along with sending a signal to activate an audible or light warning when the battery backup system is low on power and needs replacement (col3 23-27). Having an electronic system checking the battery backup system of the device disclosed by Elliot and Sisselman would be useful because it would alert the user when the battery backup system is in need of replacement. Therefore it would have been obvious to one of ordinary skill in the art to modify the device disclosed by Elliot and Sisselman according to the teachings of Crimmins to include a system to alert the user when the battery backup system is low on power.

Regarding claim 15, Elliot and Sisselman disclose all the claimed limitations except the claimed method further comprising effecting a bumpless shift from primary power to secondary power. The bumpless shift is interpreted as a switching from primary to secondary power without a loss of power to the system. Crimmins teaches using two power sources to run the fire door system, a primary AC power source and a secondary DC battery backup with constant operation of the fire door even when the

Art Unit: 2632

loss of primary AC power occurs (col9 15-67 and col10 1-41). The advantage of using a seamless transition between primary and secondary power sources as taught by Crimmins in the device disclosed by Elliot and Sisselman would be that at no time would the fire door be unable to operate in case of an alarm condition. Therefore it would have been obvious to one of ordinary skill in the art to modify the device disclosed by Elliot and Sisselman according to the teachings of Crimmins to include a seamless transition from primary to secondary power sources.

Regarding claim 16, Elliot and Sisselman disclose all the claimed limitations except the claimed method further comprising periodically checking for a loss of primary power. Crimmins teaches checking for the availability of AC power during operation of the fire door system (col6 29-31). Periodically checking for a loss in AC power would allow the system to alert the user when the primary power source is off and that the system is operating on battery backup power so the user would be able to fix the problem with the primary power source. Therefore it would have been obvious to one of ordinary skill in the art to modify the device disclosed by Elliot and Sisselman according to the teachings of Crimmins to periodically check for a loss of power in the primary power source.

Regarding claim 17, the claim is interpreted and rejected as claim 14 stated above.

Regarding claim 18, Elliot and Sisselman disclose all the claimed limitations except the claimed method further comprising removing an alarm condition for subsequent regular non-alarm operation of the fire door system by resetting the electronic controller wherein resetting the electronic controller comprises one of pressing a door opening button, pressing a clutch release button, and pulling a hand crank chain. The device disclosed by Elliot and Sisselman automatically resets when the fire door is raised. Crimmins teaches using a push button station (5) that includes buttons to operate the opening, closing and stopping of the door. Using the buttons to open the door would make it easier to open by using the AC drive motor instead of opening the door manually. Therefore it would have been obvious to one of ordinary skill in the art to modify the device disclosed by Elliot and Sisselman according to the teachings of Crimmins to include push button control to open the door that would automatically reset the fire door system for subsequent regular non-alarm operation. The fire door curtain is lowered during an alarm condition and therefore raising the fire door curtain is indicative of the removal of an alarm condition.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elliot in view of Sisselman and further in view of Campman (US Patent 3,803,572).

Regarding claim 9, Elliot and Sisselman disclose all the claimed limitations except the claimed method further comprising receiving a signal in the electronic controller indicating one of the alarm conditions and initiating a time delay of a

predetermined reset delay period of time before which the system cannot be reset. Campman discloses Intrusion Detecting Apparatus that teaches reset means being prevented from operating for a predetermined time interval after the alarm condition occurs. Having a predetermined time period where the system is unable to be reset would allow more time for the user to notice that the alarm has occurred and therefore take the necessary steps. Therefore it would have been obvious to one of ordinary skill in the art to modify the device disclosed by Elliot and Sisselman according to the teachings of Campman to include a predetermined reset delay time period in which the system cannot be reset after receiving an indication of an alarm condition.

8. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elliot in view of Sisselman and further in view of Asagi et al. (Asagi; US Patent 4,671,397).

Regarding claim 12, Elliot and Sisselman disclose all the claimed limitations except the claimed method further comprising periodically checking for a field breakdown in the clutch. The term 'field breakdown' is interpreted to mean a fault in the clutch system that occurs in the field of operation. Asagi discloses Automatic Clutch Control System that teaches automatically diagnosing the condition of a clutch stroke sensor and can detect the breakdown of the clutch stroke sensor. It would be helpful to determine if there was a problem occurring in the clutch mechanism of the device disclosed by Elliot and Sisselman because it is vital in the operation of the fire door system. Therefore it would have been obvious to one of ordinary skill in the art to

modify the device disclosed by Elliot and Sisselman according to the teachings of Asagi to periodically check for a breakdown in the clutch.

***Allowable Subject Matter***

9. Claims 3-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claim 5 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lloyd et al. discloses Fire/Life Safety System Operation... US 5,950,150.

Weik, III et al. discloses Door Controlling Device, US 6,484,784.

Bailey et al. discloses Fire Door and Operator Therefor, US 4,147,197.

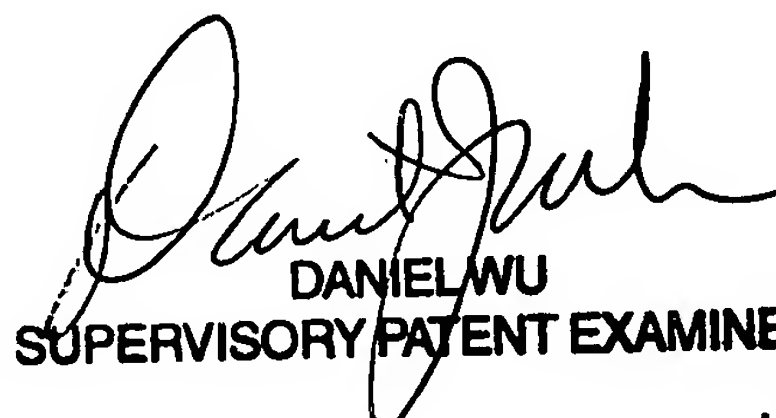
Brodecki et al. discloses Combustion Products Detector... US 4,965,556.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Travis R Hunnings whose telephone number is (571) 272-3118. The examiner can normally be reached on 8:00 am - 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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DANIEL WU  
SUPERVISORY PATENT EXAMINER  
10/18/04